November 9, 1909.

S. F. Harmer, Esq., M.A., Sc.D., F.R.S., Vice-President, in the Chair.

The Secretary read the following report on the additions made to the Society's Menagerie during the months of May, June, July, August, and September, 1909 :—

May.

The registered additions to the Society's Menagerie during the month of May were 201 in number. Of these 63 were acquired by presentation, 5 by purchase, 42 were received on deposit, 83 in exchange, and 8 were born in the Gardens.

The total number of departures during the month, by death and by removals, was 199.

Amongst the additions special attention may be called to the following :—

A pair of Sable Antelopes (*Hippotragus niger*), from South Africa, purchased on May 8th.

A male Chamois (*Rupicapra tragus*), born in the Menagerie on May 17th.

A Collection of Mammals and Birds from Venezuela, including a Brazilian Tree-Porcupine (*Coendu prehensilis*), a Green Hang-nest (*Ostinops viridis*), new to the Collection, and a Sun-Bittern (*Eurypyga helias*), presented by Albert Pam, Esq., F.Z.S., on May 19th.

A large Collection of Reptiles, including 3 Water-Vipers (*Ancistrodon piscivorus*), 2 Diamond Rattlesnakes (*Crotalus adamanteus*), 4 Texan Rattlesnakes (*Crotalus atrox*), 2 King Snakes (*Ophibolus getulus*), and 2 Say's Snakes (*Pituophis sayi*), received in exchange from the Zoological Society of New York on May 18th.

June.

The registered additions to the Society's Menagerie during the month of June were 311 in number. Of these 75 were acquired by presentation, 159 by purchase, 37 were received on deposit, 23 in exchange, and 17 were born in the Gardens.

The total number of departures during the month, by death and by removals, was 144.

Amongst the additions special attention may be called to the following :—

1 Aard Wolf (*Proteles cristatus*), 1 Brindled Gnu (*Connochætes taurina*), and 1 Ground-Hornbill (*Buceros capensis*), from South Africa, received in exchange on June 7th.

1 Dziggetai (*Equus hemionus*) ♂, new to the Collection, from Mongolia, deposited by the President on June 10th.

2 Bantings (*Bos sondaicus*) ♂ ♀, from Further India, received in exchange on June 3rd.

1 Bhutan Takin (*Budorcas taxicolor whitei*) ♂, new to the Collection, from N.W. Bhutan, presented by J. C. White, Esq., C.M.Z.S., on June 22nd.

2 Ursine Tree-Kangaroos (*Dendrolagus ursinus*) ♂ ♀, new to the Collection, purchased on June 25th.

July.

The registered additions to the Society's Menagerie during the month of July were 123 in number. Of these 72 were acquired by presentation, 16 by purchase, 21 were received on deposit, 6 in exchange, and 8 were born in the Gardens.

The total number of departures during the month, by death and by removals, was 225.

Amongst the additions special attention may be called to the following:—

2 Crowned Duikers (*Cephalophus coronatus*), presented by Major H. F. Searight on July 1st; 2 Grecian Ibex (*Capra ægagrus*), presented by A. Trevor-Battye, Esq., F.Z.S., on July 17th; and 2 Baillon's Aracaris (*Andigena bailloni*), received in exchange on July 18th.

August.

The registered additions to the Society's Menagerie during the month of August were 226 in number. Of these 144 were acquired by presentation, 9 by purchase, 56 were received on deposit, 4 in exchange, and 13 were born in the Gardens.

The total number of departures during the month, by death and by removals, was 151.

Amongst the additions special attention may be called to the following:—

1 Siamang Gibbon (*Symphalangus syndactylus*), from Perak, presented by E. M. Hawes, Esq., F.Z.S., on Aug. 7th.

2 Bonteboks (*Damaliscus pygargus*), from Swellendam, Cape Colony, purchased on Aug. 5th.

1 Honduras Turkey (*Meleagris ocellata*), from Guatemala, deposited on Aug. 30th.

2 Goliath Herons (*Ardea goliath*), from Africa, presented by Frederick Burgoyne, Esq., F.Z.S., on Aug. 11th.

A large collection of Mammals and Birds, including 1 Great Ant-eater (*Myrmecophaga jubata*), 1 Capybara (*Hydrochœrus capybara*), 1 Hairy Tree-Porcupine (*Coendu prehensilis*), 1 Harpy Eagle (*Thrasaëtus harpyia*), 1 Helmeted Curassow (*Pauxis galeata*), and specimens of several species of Tanagers and other birds from Venezuela, presented by Albert Pam, Esq., F.Z.S., on Aug. 11th.

A Collection of Birds and Reptiles, including 3 Burrowing-Owls (*Speotyto hypogœa*), new to the Collection, 1 American Tantalus (*Tantalus loculator*), and 2 Terrific Rattlesnakes (*Crotalus terrificus*), new to the Collection, from Venezuela, presented by J. E. Aikman, Esq., C.M.Z.S., on Aug. 11th.

A large Collection of Birds, including 1 Great Black Cockatoo

(*Microglossus aterrimus*), 8 King Birds-of-Paradise (*Cicinnurus regius*), 2 Greater Birds-of-Paradise (*Paradisea apoda*), and 5 Black Manucodes (*Manucodia atra*), new to the Collection, from the Aru Islands, deposited on Aug. 17th.

September.

The registered additions to the Society's Menagerie during the month of September were 150 in number. Of these 101 were acquired by presentation, 27 by purchase, 7 were received on deposit, and 15 were born in the Gardens.

The total number of departures during the month, by death and by removals, was 161.

Amongst the additions special attention may be called to the following:—

1 Humboldt's Saki (*Pithecia monachus*), from Mañaos, purchased on Sept. 28th.

1 Maxwell's Duiker (*Cephalophus maxwelli*), from Portuguese Guinea, presented by Dr. W. J. Ansorge, F.Z.S., on Sept. 8th.

1 Sabre-horned Oryx (*Oryx algazel*), from the Sudan, presented by G. G. Chetwynd, Esq., F.Z.S., on Sept. 16th.

1 Monkey-eating Eagle (*Pithecophaga jefferyi*), from Luzon, purchased on Sept. 2nd.

1 Horned Tragopan (*Ceriornis satyra*), from the Himalayas, presented by F. Naumann, Esq., on Sept. 9th.

The Secretary, Dr. P. Chalmers Mitchell, F.R.S., exhibited the frontlet of a Mishmi Takin (*Budorcas taxicolor*), killed in 1903 in the country of the Mishmi tribe, N.E. of Saikwa, Upper Assam, and lent by Mr. J. D. Berrington, of Abergavenny. The frontlet was in very fine condition and was that of an adult, although the measurements were rather less than those of any specimens of the same species given in the fifth edition of Rowland Ward's 'Records of Big Game.' The formation of the horns conformed in every way with those of the typical Mishmi Takin as described by Mr. R. Lydekker in the Society's Proceedings (P. Z. S. 1908, p. 797).

The Secretary also exhibited a carved wooden figure of a Takin, presented to the Society by Mrs. Brian Hodgson, widow of Mr. B. H. Hodgson, who first named the Takin and made it known to science. The horns in the figure were well represented but the modelling of the body was inexact. The carving was made by the Khamti who killed the animals on which Mr. Hodgson described the genus, and is referred to in the original memoir (Journal Asiatic Soc. Bengal, 1850, p. 75).

Professor E. A. Minchin, M.A., V.P.Z.S., exhibited two microscopic preparations of the *Cysticercus*-stage of a Cestode found by him in the body-cavity of rat-fleas (*Ceratophyllus fasciatus*), which he had dissected while investigating the problem of the

transmission of the rat-trypanosome (*Trypanosoma lewisi*). He stated that he had found no flagellate parasites in any rat-fleas which had not been fed on rats infected with *T. lewisi*, but had found incidentally various other parasites in the fleas in the course of his investigations, namely, a Protozoan parasite which infested the Malpighian tubes, another which was found in the heart and in the body-cavity, and lastly the Cysticerci which were exhibited. The Cysticerci were found free in the body-cavity and were of fairly common occurrence. In one flea three Cysticerci were found. They probably represented the larval stage of some species of tapeworm occurring in the rat. The fleas had been bred in special cages into which tame white rats were introduced to feed them. It was therefore certain that the fleas must have acquired them from the rats, probably in the young stages, by the flea-larvæ feeding on the fæces of the rat, and so ingesting the eggs of the tapeworm. It was proposed to institute some experiments in order to discover, by feeding young rats bred in captivity with food containing fleas, to what species of tapeworm these Cysticerci gave rise in the rat.

A new Nematode Worm from Trinidad *.

Dr. Robert T. Leiper, F.Z.S., Helminthologist to the London School of Tropical Medicine, exhibited specimens of

LAGOCHILASCARIS MINOR

(Leiper, Abstract P. Z. S. 1909, No. 74, pp. 35, 36),

a new Nematode causing abscesses in natives of Trinidad, which had been kindly given to him for investigation a considerable time ago by Dr. George C. Low, to whom they had been forwarded by Dr. Dickson, Medical Officer of Health, Trinidad.

The parasites occurred in the discharges of subcutaneous abscesses in two hospital patients, and were preserved in weak formalin. In this fluid they were white in colour, and resembled short pieces of thin twine. With the aid of a hand lens three well-developed lips could be seen guarding the mouth. Their presence is a sufficient indication that the specimens belonged to the family *Ascaridæ*, and rendered it probable that they were immature stages of the common *Ascaris* that had wandered into the connective tissues from the gut. This supposition proved incorrect, for in spite of their small size the worms were found on microscopical examination to be sexually mature. The females contained a large number of eggs. Moreover, the peculiar shape of the individual lips, and the presence of a narrow keel-like ridge of cuticle on either side of the body throughout its length, distinguished this form from the three species of Ascaridæ known to occur in man, viz. *Ascaris lumbricoides*, *Belascaris mystax*, and *Toxascaris marginata*.

* [The complete account of this new species appears here; but the name and a preliminary diagnosis were published in the 'Abstract,' No. 74 (Nov. 9, 1909).—EDITOR.]

Description.—The male worms are easily distinguished from the females by their smaller size—being 9 mm. in length by ·4 mm. in breadth, as compared with 15 mm. in length by ·5 mm. in breadth.

The posterior part of the body in the male is bent ventrally like a *pot-hook*—in the female it is straight.

The integument is marked transversely by fine striæ, there are no alæ at the anterior end of the body as in the species *mystax* and *marginata*, but the cuticle projects from the two lateral bands as a narrow ridge for almost the whole length of the body.

Alimentary Canal.—A deep furrow in the cuticle sharply defines the junction of the lips with the rest of the body. Each lip is separated from its neighbour by a short horn-like projection of cuticle, that arises from the floor of this groove. The cuticular covering of the individual lips is exceedingly strongly developed, and little can be seen of the pulp. Each lip is vertically split along its inner, or biting surface, giving that appearance of "hare-lip" which suggested the name *Lagochilascaris*.

The *Œsophagus* is a simple muscular bulb resembling that of other Ascaridæ, and measures in length in the male 1·1 mm., in the female 1·2 mm., its diameter increasing from ·1 mm. to ·15 mm.

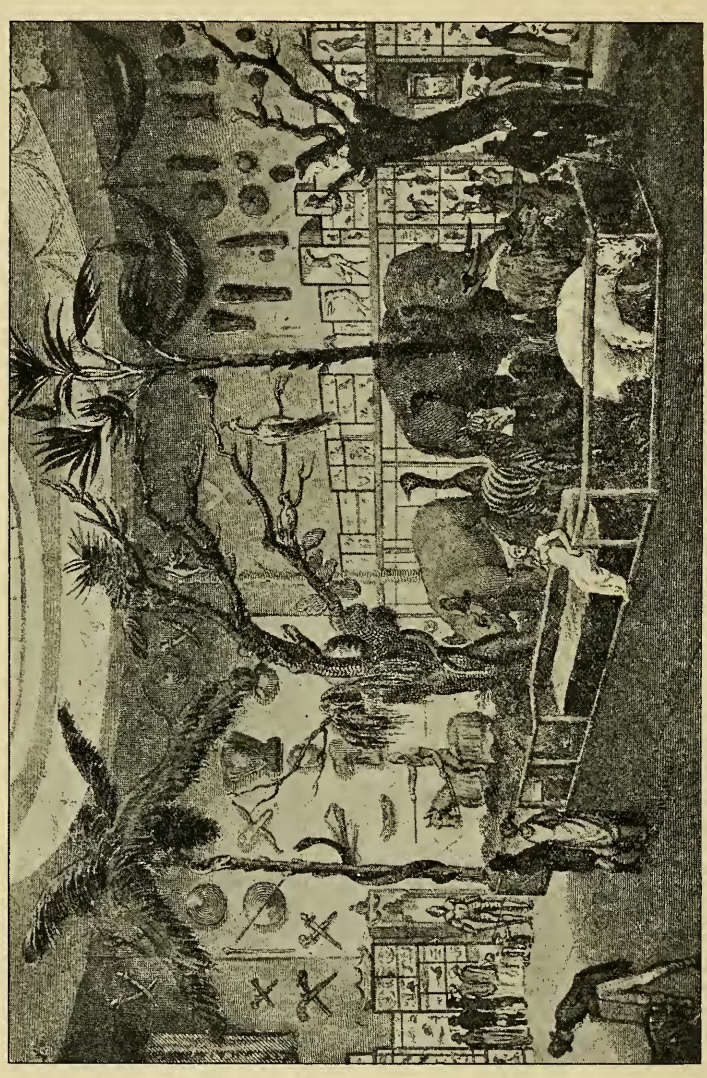
The chyle intestine is a wide thin-walled tube ending in a short straight and chitinous rectum ·15 mm. long.

Genitalia.—In the *male* the cloaca opens ·13 mm. from the tip of the tail. The testicular tube is differentiated into three portions: (1) the ejaculatory duct about ·8 mm. in length and attaining a greatest diameter of ·13 mm. This gradually dilates to become (2) the seminal vesicle which extends forwards for a distance of 2 mm. and maintains through the greater part of its course a diameter of ·2 mm., and terminates in (3) the testicular tubule which, with a diameter of ·1 mm. or less, follows a much coiled course as far forward as the junction of the œsophagus and chyle intestine. There are two solid curved and colourless *spicules* measuring 3·5 mm. and 4 mm. in length. The pre-anal papillæ number over 24 pairs and there are apparently five pairs of post-anal papillæ, but these could not be ascertained satisfactorily.

The *female* measures 15 mm. in length. The vulva, guarded by slightly protruding lips, opens 6 mm. from the anterior end. The *vagina* passes forwards for a short distance, then turns backwards. The ovarian and uterine tubules occupy the middle third only of the body. The *ova* are round and pitted like those of *A. mystax*, thick-shelled and colourless, ·065 mm. in diameter.

Habitat.—The alimentary canal is undoubtedly the normal habitat of this worm, and its occurrence in abscesses under the skin in the two cases from which it was obtained renders it likely that some other animal—probably one of the carnivora—and not man, is its normal host.

On behalf of Mr. R. Lydekker, Dr. A. Smith Woodward, F.R.S., V.P.Z.S., exhibited an old coloured print (text-fig. 235) of the chief room of Bullock's Museum, in the building subsequently known



Text-fig. 235.

Bullock's Museum, 22 Piccadilly.
No. 18 of 'Ackerman's Repository of Arts, &c.,' vol. 3, pl. 35, 1810.

as the Egyptian Hall. The print was in an old scrap-book, formerly in the possession of Mr. Lydekker's family, and bore the printed legend "Bullock's Museum." Its authenticity is assured by the representation of the statue of the Black Prince,

which is one of the items mentioned in the catalogue of the sale of the collection, of which a copy is preserved in the British Museum (Nat. Hist.). William Bullock originally had a museum in Liverpool, but moved his collection to London about 1809, and apparently built the Egyptian Hall for its reception. The collection was sold by auction in London in the spring of 1819, when a number of specimens were purchased for the British Museum by Dr. Leach. Large extracts from the sale-catalogue are given in the second volume of the 'History of the Collections of the British Museum (Nat. Hist.).' The source of the plate, which was not known to the exhibitor, is indicated in the legend to the illustration.

The following papers were read:—

1. Some Living Shells, their recent Biology and the Light they throw on the Latest Physical Changes in the Earth.—I. *Mya arenaria*. By Sir Henry H. Howorth, K.C.I.E., D.C.L., F.R.S., F.Z.S.

[Received June 5, 1909.]

(Text-figures 236–243.)

In his paper on the proofs of a general rising of the land in certain parts of Sweden, published in the 'Philosophical Transactions' for 1835, p. 10, Lyell, in speaking of the living testacea of the Baltic, says:—"In regard to the shells I may observe that the *Mya arenaria* is the *only* one found by me in great abundance in any part of the Baltic which I did not see among the fossils of any of the localities already mentioned or those afterwards to be alluded to further to the North," *i. e.*, in the raised beds. This notable observation, then made for the first time, lay dormant for many years, and it was not until 1872, when engaged in exploring the coast of Skäne, the southern province of Sweden, that Nathorst remarked of an old raised beach situated 8 or 10 feet above the sea-level at Almarp, near Malmö, in which the littoral shells, then living in the adjoining Sound, were found, that *Mya arenaria*, which is now common there as a living shell, did not occur, and he went on to suggest that it may have been a recent immigrant into the Baltic.

Nathorst's suggestion was presently confirmed in a remarkable manner by C. G. J. Petersen on Danish ground. In Rördam's memoir on the raised beaches of Zealand he in 1892 called attention to the fact that *Mya arenaria*, although such a toothsome mollusc, had never been found in the kitchen-middens of Denmark, nor in the raised beaches of the Isefiord, &c., which synchronize with them, and he concluded very reasonably that